



The Introduction and Use of Eastern Drugs in the Early Middle Ages

Author(s): John M. Riddle

Source: *Sudhoffs Archiv für Geschichte der Medizin und der Naturwissenschaften*, Bd. 49, H. 2 (JUNI 1965), pp. 185-198

Published by: [Franz Steiner Verlag](#)

Stable URL: <http://www.jstor.org/stable/20775182>

Accessed: 06/09/2013 21:43

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at
<http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Franz Steiner Verlag is collaborating with JSTOR to digitize, preserve and extend access to *Sudhoffs Archiv für Geschichte der Medizin und der Naturwissenschaften*.

<http://www.jstor.org>

The Introduction and Use of Eastern Drugs in the Early Middle Ages*

By JOHN M. RIDDLE

Medical recipes are scattered in numerous manuscripts both in Latin and the vernacular. Many date from the so-called „dark ages“, that is, pre-Salernitan Europe before the first translations of the Islamic medical writings¹. Examination of the nature and sources of this early medieval recipe literature has disclosed an interesting connection with eastern drugs. The importance of this connection is grasped when we note that the large amounts of oriental products mentioned in western texts indicates both extensive trade contact and a type of communication about new drugs. This development comes prior to any known translations of medical texts and when, according to the old PIRENNE thesis, Europe was introverted and isolated from contact with the Islamic east.

Before launching this study it might be wise to make some introductory comments about the nature and content of the medieval recipe literature. Few existing manuscripts are completely devoted to the antidotaries and receptaries, words used to describe the Latin recipe literature, although numerous medical and non-medical manuscripts contain folios of prescriptions for all sorts of afflictions². The authorship is always anonymous. SIGERIST and JÖRIMANN agreed that the antidotaries were compiled by monks having some medical knowledge³. Most recipes are derived directly out of the

* For his scholarly supervision and many aids, I am deeply indebted to Prof. JOHANNES STEUDEL. Also I wish to express my appreciation to the Fulbright Kommission for making my studies under Prof. STEUDEL possible.

¹ In the last century the Rev. THOMAS OSWALD COCKAYNE published an extensive collection of the Anglo-Saxon recipe literature (*Leechdoms, wort-cunning, and starcraft of early England*, re-issue 3 vols. [London 1961].) which has been subsequently re-examined in book form by J. H. GRATTAN and CHARLES SINGER (*Anglo-Saxon magic and medicine* [London 1952]) and, still more recently, by WILFRID BONSER (*The medical background of Anglo-Saxon England. A study in history, psychology, and folklore* [London 1963]). Early in this century HENRY SIGERIST (*Studien und Texte zur frühmittelalterlichen Rezeptliteratur* [Leipzig 1923]) and his pupil JULIUS JÖRIMANN (*Frühmittelalterliche Rezeptarien* [Zürich 1925]) published the texts of some of the early Latin recipe literature.

² LOREN C. MACKINNEY, *Early medieval medicine: with special reference to France and Chartres* (Baltimore 1937), p. 136.

³ SIGERIST, *Rezeptliteratur*, p. 168; JÖRIMANN, *Rezeptarien*, p. 1.

works ancient authors, especially ALEXANDER OF TRALLES, AETIUS OF AMIDA, and PAUL OF AEGINA, but not two antidotary or receptary are alike. Individuality and originality are present in so far as the compiler had to make the selection himself from the plentiful supply of prescriptions in ancient texts and, therewith, came personal judgment¹. GALEN was the most named author, HIPPOCRATES being in the background, but many classical names were attached to the prescriptions. Some have emperors' names, *e. g.*, VESPASIAN and ALEXANDER OF MACEDONIA, and other writers of the early middle ages, *e. g.*, AFRODISIUS, THOMAS, GENTILIS, NEUCLERIUS, and EUGENIUS². There is evidence that new material was translated from the Greek³. Still some recipes cannot be attributed to extant classical works, and it is certain there were new additions. What we have in most cases are original compilations, SIGERIST said, which the writer has gathered for the necessity of his monastic needs⁴.

For the most part the recipes pertain to things of everyday life, *e. g.*, remedies for coughing and removing lice, and for headaches, pain in the stomach, and wounds. Most recipes are not for specific diseases. Early medieval medicine was unprepared for advanced diagnostic techniques required for such prescriptions. The recipes were mostly for what today would be called patent medicines purchased across counters⁵.

Recipe literature is found in Anglo-Saxon England and written in the old English vernacular. These numerous manuscripts, mostly pre-Salernitan, are not translations but compilations by herbalists (leeches) mainly from Latin sources but with unusual amounts of folklore sprinkled throughout. The folklore is derived from Roman, Celtic, and Teutonic cultural strands. Additionally these leech-books show evidence of southern Italian and Byzantine influence, chiefly via Benedictine transmission⁶.

In attempting to obtain an insight into the extensiveness of drugs in early medieval, western pharmacopoeia, I took a statistical analysis of the 9th century antidotary, St. Gall MS 44, ff. 228–255⁷. The manuscript is divided into sections according to the form of the

¹ SIGERIST, *Rezeptliteratur*, pp. 185–6; JÖRIMANN, *Rezeptarien*, pp. 1–2.

² SIGERIST, *Rezeptliteratur*, pp. 182–4.

³ *Ibid.*, p. 186. ⁴ *Ibid.*, pp. 185–6. ⁵ *Ibid.*, p. 170.

⁶ CHARLES SINGER, „Introduction“, to COCKAYNE, *Leechdoms . . .*, I, xxvi–xl; BONSER, *The medical background of A. S. Engl.*, pp. 34–47.

⁷ The text is published in SIGERIST, *Rezeptliteratur*, pp. 78–99.

recipe, *e. g.*, salves, poultices, and the like. This antidotary has a total of 123 recipes involving some 361 different ingredients used a total of 944 times, thereby, illustrating at once the large number of drugs. Since the drugs were not often repeated, just a few accounting for the majority, we can see the specialized nature attributed to each simple. In our analysis we eliminated honey, wine, wax, and rose water, substances used as emollients, flavoring agents, and solvents. From a list made of the substances, the following are those appearing in eight or more recipes (The number of times per recipe is in parenthesis): *aloes* (15), *ammonicum* (11), *amomum* (9), *apium semen* (10), *cassia* (12), *ciminum* (8), *colofonia* (14), *fenuogrecum* (10), *libanus* (12), *linum* (11), *mastiche* (16), *murra* (17), *piper* [white, long, and black] (33), *petroselinum* (17), *picea* (10), *scamonia* (14), *storace* (13), *terebentina* (17), and *zinzibar* (8).

An examination of the identities of these drugs reveals a startling fact: *most can only be found in the orient*. Eastern drugs seemed to have been the „miracle drugs“ of the Age¹. Though it is impossible always to identify each according to the exact plant species, one can be fairly certain of the family or, at least, genus².

Amomum is an aromatic scrub said by PLINY to come from India, Persia, and the Aral Sea region and presently attributed to Persia and the Aral Sea region³. *Ammonicum*, a salt, is ammonium chloride and apparently associated in antiquity with the oracle Hammon in the desert regions of Africa where *ammonicum* is found. Both PLINY and GALEN note its use in early medicine⁴, but it is known to have been manufactured in the late middle ages from the

¹ I roughly define *eastern* as those regions either controlled by Islam or east of it and excluding Spain. This includes northeastern Africa.

² The confusion over nomenclature, plant identities, and taxonomic categories in ancient-medieval medicine is illustrated in an excellent study by JERRY STANNARD, „The plant called moly“, *Osiris*, 14 (1962), 254–307.

³ PLINY, *Natural History* 12. 28. 49–9; HEINRICH ZÖRNIG, *Arzneidrogen. Als Nachschlagebuch für den Gebrauch der Apotheker, Ärzte, Veterinärärzte, Drogisten und Studierenden der Pharmazie*, 2 vols. (Leipzig 1909), I, 7. Of course, seeds scatter and species are unable to survive in some regions. This causes differences in the distribution of plants between ancient and modern times, but I shall assume in this study that plants, presently found only in the warm, moist climate of southern Asia were there also in antiquity. In most cases, I have been able to cite ancient sources collaborating modern botanists.

⁴ PLINY, *N. H.* 31. 39. 78–9; GALEN, *Opera*, K. XIX, 724, 734.

distillation of the horns and hoofs of oxen¹. *Aloes*, employed extensively in ancient medicine, is found in south Africa but mostly in India where there exists a variety of species². Medicinal aloes is a resin described in the *Materia Medica* of DIOSCORIDES³. *Cassia*, probably a product of *cinnamomum pauciflorum nees*⁴, is said by PLINY to be the „skin“ of a scrub⁵, and it is known to be found only in the far east⁶. *Crocus* is simply the Latin and Greek form for saffron, an oriental product⁷. *Libanus*, or frankincense, is a product of the orient, though one variety of the tree bearing this gum is indigenous to the Somilia region⁸. *Murra*, or myrrh, remembered along with frankincense as two of the Magi's gifts, is the gum resin product of *commiphora myrrha*, found only in Arabia and Abyssinia⁹. On the other hand, *mastice* or mastic, a resinous exudation obtained from the lentisk plant, is presently grown in the entire Mediterranean area though evidence shows that in antiquity and the middle ages it was imported from the eastern Mediterranean¹⁰. *Pepper*, of course, is a product of the far east, a fact widely recognized in antiquity¹¹. Derived from the plant *convolvulus scam-*

¹ LUDWIG FREDERICK AUDRIETH, „Ammonia“, *Encyclopaedia Britannica* (1962 ed.), I, 815.

² ZÖRNIG, *Arzneidrogen*, I, 1-7; ALEXANDER TSCHIRCH, ed., *Handbuch der Pharmakognosie*, 3 vols. (Leipzig 1910), I, pt. 2, 1420ff.; 2nd ed.

³ *M. M.* 3. 22 (WELLMANN, ed.); see also ISIDORE, *Ety.* 17. 8, 9, 28; and GRATTAN AND SINGER, *A.-S. magic and med.*, pp. 97-8. TSCHIRCH (*Pharmakognosie*, II, pt. 2, 1441) reports that aloes was mentioned in a letter between the PATRIARCH HELIAS of Jerusalem and ALFRED THE GREAT of England.

⁴ GEORG DRAGENDORFF, *Die Heilpflanzen der verschiedenen Völker und Zeiten* (Stuttgart 1898), p. 239; TSCHIRCH, *Pharmakognosie*, II, pt. 2, 1261ff.

⁵ PLINY, *N. H.* 12. 43. 95-8.

⁶ DRAGENDORFF, *Die Heilpflanzen*, p. 239.

⁷ ZÖRNIG, *Arzneidrogen*, I, 97; DRAGENDORFF, *Die Heilpflanzen*, p. 139.

⁸ DRAGENDORFF, *Die Heilpflanzen*, p. 366; *Enc. Brit.*, (1962 ed.), IX, 689. The word *libanus* is derived from the Greek form, but also the Latin word for frankincense, *thus*, is found twice in this same manuscript. For ancient authorities, see PLINY, *H. N.* 12. 30. 51-65; 20. 64. 172; and THEOPHRASTUS, *On Plants* 9. 4. 4-9.

⁹ DRAGENDORFF, *Die Heilpflanzen*, pp. 367-8; see also PLINY, *N. H.* 12. 30. 71, and THEOPHRASTUS, *On plants* 9. 4. 1-10.

¹⁰ DRAGENDORFF, *Die Heilpflanzen*, p. 396; *Enc. Brit.* (1962 ed.), XV, 44; W. HEYD, *Histoire du Commerce du Levant au Moyen-Age*, 2 vols. (Amsterdam 1959), II, 633-5.

¹¹ See below, p. 192; also HEYD, *Histoire du Commerce . . .*, II, 658-64; and PLINY, *N. H.* 12. 14. 26-29.

monia, scammony is found only in the eastern Mediterranean area especially Asia Minor¹. *Storace* or storax, widely employed in ancient medicine, comes from Asia Minor, Syria, and the far east². Described by many ancient writers, *zinziber* or ginger is a native to the warm parts of Asia³. The remaining substances, *apium semen* (parsley seeds), *colofonia* (a resin product), *ciminum*⁴, *fenogrecum* (or *fenum Grecum*, a plant), *linum* (flax), *petroselinum* (rock-parsley), *picea* (various forms of pitch), and *tereбетина* (terebinth) are all found in western Europe. Thus, the evidence from this typical antidotary of 9th century Europe discloses a large use of eastern products which had to have been imported. That is to say, the drugs WERE imported if the manuscripts of recipe literature were in actual use.

Convincing evidence can be shown to those who with laudable stubbornness refuse to believe that the recipe literature was anything but handwriting exercises for monks with no medical knowledge. FULBERT wrote a letter to a bishop urging him to consult the antidotaries for proper medicines⁵. ALCUIN states that physicians (*medici*) collected and compounded drugs⁶. Prescribed ceremonies were probably performed while collecting herbs⁷. Intermittently medieval writers have appended their own observations onto

¹ DRAGENDORFF, *Die Heilpflanzen*, p. 553; TSCHIRCH, *Pharmakognosie*, II, pt. 2, 1333–5.

² DRAGENDORFF, *Die Heilpflanzen*, pp. 270–1; PLINY, *N. H.* 12. 55. 124–5.

³ DRAGENDORFF, *Die Heilpflanzen*, p. 141ff.; *Enc. Brit.* (1962 ed.), X, 365; TSCHIRCH, *Pharmakognosie*, II, pt. 2, 1044–58. See also PLINY, *N. H.* 12. 14. 28; CELSUS, *De re medica* 5. 23; GALEN, *Opera*, XI, 880 ff.; DIOSCORIDES, *M. M.* 2. 160 (WELLMANN, ed.). For trade in ginger, see HEYD, *Histoire du Commerce . . .*, II, 619–23.

⁴ Though the plant is said to be found in modern, southern Europe as well as Egypt and Asia, PLINY spoke only of a species from Ethiopia. (Pliny, *N. H.* 20. 55. 161; DRAGENDORFF, *Die Heilpflanzen*, pp. 499–500) We know, however, that in the year 820 A. D. *ciminum* was growing in the herbal garden at St. Gall. — P. JUNG, „Das Infirmary im Bauriß des Klosters von St. Gallen vom Jahre 820“, *Gesnerus* 6 (1949), 5. There is some evidence that it may have been imported also. — see the list on p. 194.

⁵ *Ep.* 4 (*P. L.*, lat., CXLI, 195–6).

⁶ *Ep.* 213 (*M. G. H.*, *Ep.* IV, 356–7): „Solent namque medici ex multorum speciebus pigmentorum in salutem poscentis quoddam medicamenti componere genus, nec se ipsos frateri praesumunt creatores herbarum vel aliarum specierum, ex quarum compositione salus efficitur egrotantium . . . “.

⁷ BONSER, *The medical background of A.-S. Engl.*, p. 314–6.

ancient texts to clarify plant identities and to add where they are to be found¹. As a final proof of the use of the recipe literature and of eastern products in them, the manuscripts contain new drugs recently discovered in the east. These new drugs were unknown in antiquity and were actually introduced into western Europe during the early middle ages. For example, the St. Gall MS 44 on folio 247 contains the word *ambar*, from the Arabic meaning ambergris, the biliary concretion of the sperm whale.

Unknown in antiquity, the pharmaceutical values of ambergris were discovered by the Arabs, though possibly they borrowed it from other eastern sources². ABU ZAKARIYA IBN MASAWAIH (777–857 A.D.), the last great physician of the school at Jundišapur, named ambergris as one of the five principal aromatics³. A manual for traders, composed possibly in the 11th century or even earlier, lists ambergris along with camphor, musk, aloes, pepper, cinnamon, and ginger⁴. By the 12th century ambergris was confused with amber in western Europe. Thus, the knowledge of ambergris and its Arabic name were introduced into western Europe by the 9th century or two centuries before the first Latin translations of Islamic medical writers.

The word *cafora*, coming from the Arabic *kāfoûr*⁵, is found in the same manuscript as ambergris and also in an antidotary written in Lombardic script in the 9th or 10th centuries⁶. As a product of the plant *cinnamomum camphora* nees, *cafora* or camphor is found

¹ JÖRIMANN, *Rezeptarien*, p. 81; MACKINNEY, *Early medieval med.*, pp. 35–6.

² JOHN M. RIDDLE, „Pomum ambrae: Amber and ambergris in plague remedies“, *Sudhoffs Archiv*, 48 (1964), 121–2; and „Amber in antiquity: Philological variants“, *Laudatores temporis acti. Studies in memory of Wallace Everett Caldwell* (Chapel Hill 1964), pp. 110–20.

³ MARTIN LEVEY, „Ibn Masawaih and his treatise on simple aromatic substances“, *Journ. hist. med.* 16 (1961), 394.

⁴ *Kitāb al-ishārati ilā mahāsini 't-tjāra* (Cairo A. H. 1318), as cited by T. W. ARNOLD, „Arab travellers and merchants, A. D. 1000–1500“, Chapt. 5 of: ARTHUR PERCIVAL NEWTON, *Travel and travellers of the middle ages* (New York 1926), 93–4 [The word *amber* is mistranslated].

⁵ TSCHIRCH, *Pharmakognosie*, I, pt. 2, 611ff. Camphor is included in a list of drugs introduced by the Arabs and Persians by both TSCHIRCH (*Ibid.*, I, pt. 2, 614) and ERIC JOHN HOLMYARD („Medieval Arabic pharmacology“, *Proceedings Royal Soc. Med.* 29 (1936), 107.

⁶ Glasgow, Hunterian MS T. 4. 13, f. 168, as published in SIGERIST, *Rezeptliteratur*, p. 147.

